

ABSTRACT OF THE DISCLOSURE

An etching control layer with a composition different from that of a compound semiconductor substrate is deposited over the surface of the substrate. Then, a first multilayer structure, made up of multiple semiconductor layers including a first active layer with a composition different from that of the etching control layer, is defined over the etching control layer. A first semiconductor laser structure is formed out of the first multilayer structure on a first region of the substrate by selectively etching and patterning the first multilayer structure. A second multilayer structure, made up of multiple semiconductor layers including a second active layer, is defined over the surface of the substrate as well as over the first semiconductor laser structure. A second semiconductor laser structure is formed out of the second multilayer structure on a second region of the substrate by selectively etching and patterning the second multilayer structure.